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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,105

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Roger Ian Crickmore

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08/02/2011

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EXAMINER

SHAH, SAMIR M

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

08/02/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,105	Applicant(s) CRICKMORE ET AL.	
	Examiner SAMIR M. SHAH	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14,15 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-12,14,15 and 20 is/are allowed.
- 6) ☒ Claim(s) 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 05/06/2011, with respect to claims 21 and 22 have been fully considered but they are not persuasive.

(a) As to applicant's argument, pertaining to "when walls of Thomas are radially displaced to the point where they contact seismic mass, the walls become constrained and cannot be further radially displaced", its interpretation as "as soon as the device of Thomas is deformed to the point of non-operability it anticipates claims 21-22," and applicant's derivation therefrom, "any internal surface of any hollow or cavity structure is constrained against radial displacement, as the two opposing sides will ultimately come into contact with one another," the examiner respectfully draws applicant's attention to claim 22, which recites, "the internal surface of the cavity is constrained by the seismic mass".

Based on applicant's aforementioned derivation, as soon as the fibre optic accelerometer of claim 22 is deformed to the point of non-operability (internal surface of the cavity touches the seismic mass), the seismic mass constrains the internal surface of the cavity from further radial displacement.

Thomas clearly teaches this structure and therefore renders claims 21 and 22 unpatentable.

Claim Objections

2. Claim 22 is objected to because of the following informalities:
 - (a) As to claim 22, delete “according to Claim 20” and replace it with --according to Claim 21--.
3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (International Patent Application WO 03/081186 A2 hereinafter referred to as “Thomas”).
 - (a) As to claim 21, Thomas discloses a fibre optic accelerometer (10) comprising a body (12) of compliant material having an internal cavity extending in an axial direction (figures 1-7; page 5, line 21 - page 6, line 18);

optical fibre (11) wound circumferentially around said body (12) (figures 1-7; page 5, line 21 - page 6, line 18); and

a seismic mass (23) located within said cavity, wherein the internal surface of said cavity is constrained against radial displacement (figures 1-7; page 5, line 21 - page 6, line 18).

Note, claim 21 does not recite the internal surface of said cavity being totally constrained against all possible radial displacement. Thomas' seismic mass prevents radial displacement of the internal surface of the cavity once the sides touch the mass thereby preventing further radial displacement.

Applicant's arguments seem to be directed towards total constraining of the internal surface of the cavity against radial displacement, which is narrower than what is actually claimed. It is suggested that the claim be modified to include --the internal surface of said cavity is constrained against any radial displacement-- to match the scope of the claim with applicant's arguments.

As to claim 21, Thomas does not expressly disclose the internal surface of the cavity being constrained against radial displacement while the accelerometer is in operation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to fix the seismic mass in such a way so as to prevent radial displacement of the internal surface of said cavity once the sides touch the mass, because any further displacement would provide erroneous results due to unexpected movement of the mass.

(b) As to claim 22, Thomas discloses the internal surface of the cavity being constrained by the seismic mass (23) (figures 1-7; page 5, line 21 - page 6, line 18).

Note as to claim 22, the degree of constraint is not claimed and the claim does not require the internal surface to be completely constrained by the seismic mass.

Allowable Subject Matter

6. Claims 1, 3-12, 14, 15 and 20 are allowed.

(a) As to independent claim 1, note is made of the limitation, “axial compression in the cylinder by the seismic mass increases stress in the optical fibre” in combination with the rest of the limitations in the claim.

As to independent claim 15, note is made of the limitation, “axially displacing the seismic mass so as to compress the cylinder thereby increasing the stress induced in the optical fibre” in combination with the rest of the limitations in the claim.

(b) The prior art does not disclose or provide motivation to combine the above-mentioned respective limitations in combination with the rest of the limitations in the claims.

Conclusion

7. The prior art made of record and not relied upon, cited in the attached 892 form, is considered pertinent to applicant's disclosure.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMIR M. SHAH whose telephone number is (571)272-2671. The examiner can normally be reached on Monday-Friday 10:00 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2856

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HEZRON E WILLIAMS/
Supervisory Patent Examiner, Art
Unit 2856

/S.M.S./
Samir M. Shah
Art Unit 2856
07/30/2011